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THE WATERSHED PROTECTION AND FLOOD PREVENTION ACT:

A NEW TOOL FOR SOIL AND WATER CONSERVATION

It is indeed a pleasure to have this opportunity to explain to your (organization, group, etc.) the objectives of the Watershed Protection and Flood Prevention Act, Public Law 566, enacted by the 83d Congress in August 1954. The scope of the Act was broadened and a number of its provisions were substantially changed by Public Law 1018, which the President signed on August 7, 1956.

First let me remind you that wherever you live, you are within a watershed. Your farm, ranch, home on a town lot, or your business in the city are all within the natural boundaries of some watershed. All the lands and waters of the Nation are bounded by natural drainage divides and therefore come within the scope of Public Law 566.

The problems of development, conservation, and use of water all fall within the natural boundaries of watersheds. Water respects none of our man-made lines, such as those of township, city, county, or State.

Land development, use, and conservation are directly related to water management. We use and treat the lands to conserve moisture from rain and snow, to prevent sheet and gully erosion caused by runoff, to prevent flood overflow, to store and divert water for irrigation, streamflow regulation, municipal or industrial water supply or other beneficial purposes, and to remove excess water by drainage.

In your watershed wherever you live, you share with all others there the tragedies of floods, washed-away land, mud-filled lakes, and water shortages. You also share with others the fruits of watershed protection, development, and flood prevention.

Watershed Protection Moves Forward

For years we have been moving toward more intensive watershed protection. It was a basic idea in the Executive Order of 1891 which set aside the National Forest reserves and was carried into subsequent forest legislation. From its beginning in 1933, the Soil Conservation Service stressed the need for planning and treating entire watersheds. As the Soil Erosion Service in the Department of the Interior, it established the first erosion-control demonstrations on a watershed basis. In 1935 the Soil Conservation Act, Public Law 46, created the Soil Conservation Service in the Department of Agriculture and expanded its responsibility for a national program of soil and water conservation.

Beginning in 1937, the States passed laws that authorized farmers and ranchers to organize and govern soil conservation districts. These local

agencies, now totaling 2,726 throughout the Nation, are dedicated to planning and applying soil and water conservation measures to agricultural land. Some districts have watershed boundaries; all have small watersheds within their boundaries, and are parts of larger watersheds.

District and other leaders soon recognized, however, that an unbridged gap existed between the effective conservation work done by individual farmers and ranchers on their own land or by Federal and State agencies on public lands and the large downstream dams and other developments on major rivers. In many cases, landowners were unable to complete their own conservation programs because of flooding and other problems they could not solve as individuals.

The Flood Control Act of 1936 was the first Federal law to recognize the need for watershed protection and management as a principal means of flood control. Responsibility for "upstream flood control" was assigned to the Department of Agriculture. World War II delayed the beginning of operations under this law, however. Since 1947, upstream planning and treatment with all measures needed to conserve soil and water and to reduce flood and sediment damages have been under way in 11 watersheds covering about 30 million acres.

The second Federal action came in 1953 when Congress appropriated \$5 million with which 60 pilot watershed projects were started. One objective was to demonstrate the benefits of combining soil and water conservation on the land with upstream flood-prevention structures. The other was to find out the best ways to achieve local-State-Federal teamwork in planning and carrying out watershed protection and development.

A New Approach to Watershed Protection and Flood Prevention

The Watershed Protection and Flood Prevention Act provides for a watershed project-type approach to soil and water resource development, use, and conservation.

Each project is a local undertaking with Federal help; not a Federal project with local help.

The Secretary of Agriculture is authorized to give technical and financial aid to local organizations in planning and carrying out works of improvement for (1) flood prevention, or (2) the conservation, development, utilization, and disposal of water in small watersheds. The Soil Conservation Service has been delegated primary responsibility for carrying out the provisions of this Act.

Congress in passing the Watershed Protection and Flood Prevention Act made clear:

That the additional authority of the Act should be used to supplement both our present soil and water conservation programs and our programs for development and flood protection of major river valleys;

That the Act will bridge the gap between these two types of programs and greatly enhance the ultimate benefits of both; and

That Federal help should be made available only to assist local organizations plan and install needed water-management and flood-prevention measures that cannot feasibly be installed under other current Federal conservation programs.

In this way, Congress paved the way for a joint attack on complex conservation problems that individuals cannot be expected to solve with already existing technical, cost-sharing, credit, research, and educational assistance.

Group Action Necessary

Solution of the complex problems in small watersheds requires:

1. Soil and water conservation practices applied as needed on individual farms and ranches. Wise land use and treatment are the foundation for watershed protection and flood prevention.
2. Teamwork of local organizations, including groups of land-owners, communities, towns, counties, and cities, with State and Federal Governments to build necessary structures and make other improvements that individuals cannot install alone. These are the group or community improvements that support conservation treatment of land in farms and ranches in the watershed.

Flood Prevention Measures

Two kinds of flood prevention measures are eligible for Federal assistance.

One type of improvement prevents the destruction of land and, therefore, reduces the movement of huge and damaging amounts of silt into stream channels and downstream reservoirs. Where economically justified, large gullies and severely eroding land may be protected by vegetation or structures. Practices also may include lining channels; building

diversions, chutes, drop inlets, desilting basins, and jetties; protecting road banks and fills; improving waterways crossing two or more farms; installing firebreaks and fire towers.

Another type of measure controls waterflow and water-borne sediment that cause damage to groups of landowners, communities, and the general public.

When exceptionally heavy rainstorms sweep across a watershed, runoff may be great even from conservation-treated farm and ranch land. This is especially true if the soil is already saturated or frozen. This surplus water may be controlled by structures and other measures, such as dams to retard floodwater; stream-channel clearing, straightening, and enlarging; levees and dikes; desilting basins; floodways; floodwater diversion, and special water-holding or water-diverting terraces and dikes.

Water-Management Measures

Federal financial help is also available for water-management measures such as drainage, irrigation, and measures to provide a more uniform supply and distribution of water.

Drainage measures provide for more efficient land use on existing farms and ranches. Present drainage systems serving two or more farms may be improved. Or new drainage systems may be provided for areas used for crops or grazing. The measures include all parts of a group drainage system.

Irrigation measures include diversion dams, wells, pumping plants, sealing existing storage reservoirs, sluiceways, canal headworks, canal laterals, canal lining, and main distribution canals or pipelines.

However, under the Department's present policy, drainage or irrigation of land not previously or presently used for agriculture must be incidental to, and not a primary purpose of, the measures for which help is provided.

Help may be given to provide a more uniform supply and distribution of water for agricultural, municipal, or industrial use if the improvements are a part of the watershed plan. These measures will be designed to make annual streamflow more stable, to increase the recharge of ground-water reservoirs, and to store water for agricultural, municipal, or industrial uses. Distribution systems for non-agricultural water supply, however, will not be included in a watershed plan.

When and How You Can Get Help

Some small watersheds may need none of the special measures for which the Federal Government provides financial assistance under the Act. Some watersheds need only the soil and water conservation practices that can be

applied by farmers and ranchers with technical, cost-sharing, credit, and educational assistance already available.

If a watershed needs more than that, help can be provided under authority of Public Law 566 when:

1. The watershed is smaller than 250,000 acres;
2. There is a local organization having legal authority from the State to carry out, operate, and maintain the needed works of improvement for watershed conservation and flood prevention;
3. The State approves your application for assistance;
4. The benefits of the proposed work are greater than the costs;
5. The local organization and the Department of Agriculture agree on a plan; and
6. Federal funds are available.

Size of Watershed

For Federal help the watershed must contain less than 250,000 acres. Moreover, all of it must be within the boundaries of the local qualified sponsoring organization or combination of organizations. If a watershed contains more than 250,000 acres, assistance may be requested in separate applications for two or more subdivisions, each of which is a subwatershed or subwatershed area. They may be planned jointly. Each subwatershed, however, must be a separate project.

Benefits Must Be Greater Than Costs

The Act provides for Federal help with watershed works of improvement only after it has been "determined that the benefits exceed the costs."

The policy of the Department of Agriculture requires that monetary benefits must be greater than costs for all structural measures for which the Federal Government shares in the cost.

Benefits both within the watershed project and downstream may be evaluated.

Monetary evaluations are not required for benefits from soil and water conservation measures applied to the land, however. Long experience has shown that private and public benefits from land-treatment measures are greater than costs.

Available Federal Funds

Federal funds for technical planning assistance and cost sharing must be appropriated before they can be obligated.

Obligations for planning watersheds cannot at any time exceed the available funds of the Soil Conservation Service for this purpose.

Federal assistance for carrying out works of improvement after projects have been planned and approved also is limited to the funds available. No aid can be given on new projects until available funds are more than sufficient to meet Federal obligations for the current fiscal year on projects already started.

State Authority

In most States, soil conservation districts have authority to sponsor small watershed projects.

Municipalities, counties, and flood-control, watershed, conservancy, drainage, irrigation, or other special-purpose districts may also have this authority. If in doubt as to whether a local organization has the necessary legal authority to undertake watershed protection and flood prevention with Federal help, the proper place to get an opinion is the office of the State attorney general.

Since passage of Public Law 566, many States have reviewed their laws to determine what legislation, if any, is required for State agencies and local organizations to participate in watershed development. Many States found that their local agencies or organizations did not have the needed authority, and already have passed or are preparing to pass enabling legislation.

Apply to State Agency

An application for assistance must be submitted to the State agency that has responsibility for watershed work in the State. As a matter of policy the Soil Conservation Service will not take action on an application until the State agency has approved it. By law, the Service cannot act on a disapproved application.

Copies of the application form may be obtained from the State agency or from the State Conservationist of the Soil Conservation Service. These forms show the information the State agency needs for its review of the application.

How Your Application Is Handled

After receiving an application for watershed assistance the Soil Conservation Service makes a fact-finding examination of the watershed. The Service asks the responsible State agency and other concerned Federal agencies to participate.

Representatives of the State and Federal agencies meet with the sponsoring local organization. This provides an opportunity to discuss in detail the problems, proposals for their solution, the technical and financial help that may be needed, and local ability to share in the costs.

The responsible State agency is asked to recommend the priority of watersheds approved by it. Hundreds of watershed groups throughout the Nation want assistance. It is impossible to aid them all at once. And Federal funds are not available to do that. Therefore, national priorities also must be established. The Soil Conservation Service is responsible for establishing national priorities. In so doing, its objective is to assure equitable distribution of available assistance to all sections of the country.

The State agency sends the approved application to the State Conservationist of the Soil Conservation Service. He sends the application, the State agency's recommended priority, and a report of the field study with his own recommendations to the Soil Conservation Service Administrator in Washington.

Planning help will be authorized according to established priorities and funds available for assistance.

Planning Your Watershed

Each watershed has its own combination of problems. Solutions must be tailored to fit these problems. This is watershed planning. In many ways it is similar to soil and water conservation planning for individual farms and ranches where each plan is custom-made to solve that farm's problems of land use, land damage, and water management. Each plan takes into full account the owner's wishes and abilities. But any measures for which Federal aid is provided must meet certain sound minimum technical standards.

A sound watershed work plan provides for the conservation, use, and development of all lands and waters within the drainage basin. It meshes with the goals, abilities, and desires of the local people. It provides for needed structures and other improvements any one member of the group cannot be expected to build. Farm and city people and their local, State, and Federal governments are able to work together as never before to solve such common watershed problems.

Watershed Plan Is a Proposal

The watershed work plan is a proposal of the local organization and the U. S. Department of Agriculture. It provides for specific improvements to support and supplement both soil and water conservation measures on farms and ranches and works of improvement on major rivers.

This plan guides the local organization in its efforts to protect and develop land and water resources. It is a basis for all State and Federal technical and financial help. It is a guide for budgeting and using Federal funds when appropriated.

The plan gives information on:

1. The problems in the watershed.
2. The needs and desires of the local people.
3. The planned land-treatment measures and structures.
4. Estimated costs and benefits of the project.
5. Proposed expenditures of local, State, and Federal funds.
6. The time-table for completing the project.
7. Provisions for maintaining the measures and structures.

Teamwork in Planning

During all planning stages, Soil Conservation Service technicians work closely with representatives of sponsoring local organizations and all others concerned. Local people are called on at every stage of planning to make decisions based on the facts.

For example, the planning studies might show that flood prevention, irrigation, drainage, and other water-management facilities are all justified. But after comparing estimated costs and benefits, and taking a careful look at local ability to share costs, the sponsoring group may decide that the plan should include only flood-prevention measures combined with proper land use and treatment.

They may decide, on the other hand, to proceed only with drainage, or irrigation, or other water-management facilities, or with a combination of any of them and land treatment. This they may do unless lack of flood prevention would make the desired improvements impossible or impractical.

In some watersheds, the planning studies may show that a feasible project cannot be developed or that it should be postponed. These facts will be presented to the local organization as soon as they are known. Planning will be stopped or deferred if either the Service or the local organization concludes after a full hearing that a feasible project cannot be developed at that time. Or planning will be halted if the local organization decides for any reason to delay or abandon the project.

Planning Federal Lands

Work plans also include needed measures and improvements on Federal lands within the watershed.

The Soil Conservation Service arranges for the field office of each Federal agency responsible for land in the watershed to assist in preparing the work plan.

Structures and other improvements planned for Federal lands primarily to benefit non-Federal lands must be mutually acceptable to the responsible Federal agency, to the sponsoring local organization to the extent of its interests, and to the Soil Conservation Service.

Time-Table for Your Project

Most projects will be planned for completion within 5 years after installation funds become available. Some larger projects may take as long as 10 years.

Cost Sharing

Cost-sharing proposals and arrangements must be included in the watershed work plan.

The Watershed Protection and Flood Prevention Act, as amended, and policies established by the Secretary of Agriculture determine which costs can be borne by the Federal Government, and which ones cannot.

Local organizations or landowners and operators are required to bear certain costs, either in cash or the equivalent in labor, services, and materials, regardless of the purpose of the improvements. These costs include:

1. Land, easements, and rights-of-way needed on privately owned land for structures or other improvements. The local organization may acquire them by purchase or gift.
2. Water rights required by State laws.
3. Applying most soil and water conservation measures on individual farms and ranches. Landowners may receive payments under other programs, however, including ACP and the Soil Bank.
4. Administering contracts let by the sponsoring organization for improvements on privately owned property. The Federal Government lets and administers contracts only on Federal land.
5. Operating and maintaining structures and other improvements on privately owned land. If a structure placed on Federal land benefits local people, they share the maintenance cost to the extent they are benefited.
6. Engineering services required for municipal or industrial water supply or other non-agricultural water management.

The costs of some services may be borne entirely by the Federal Government. These include:

1. Planning services, including all help given for surveys and investigations and for preparation of work plans before

Federal aid is authorized. Local or State financial or technical help in planning may, however, give higher priority to a watershed for preparation of a plan.

2. Additional technical assistance to landowners who plan and apply soil and water conservation measures on their own farms and ranches. Farmers and ranchers receive this assistance from the Soil Conservation Service through soil conservation districts. Additional technical assistance may be given from funds appropriated under the Watershed Protection and Flood Prevention Act only as required to complete land-treatment measures within the agreed-upon period for project installation.
3. Installation services, including surveys, site investigations, layout, design, preparation of specifications for structures, and supervision of construction, except for municipal or industrial water supply.
4. Application of land-treatment measures on Federal lands.

The installation costs for certain land-treatment measures which are primarily but not exclusively for flood prevention and produce benefits in excess of costs will be shared by the Federal Government from appropriations made under authority of the Act. The proportion of the installation cost borne by the Federal Government cannot exceed the proportion paid for similar measures under existing national programs (ACP, Soil Bank, Clark-McNary Act). This special category of land-treatment measures includes:

- (1) fire prevention and control;
- (2) critical area stabilization primarily by vegetative practices (includes critical road bank stabilization);
- (3) minor gully and channel stabilization measures; and
- (4) special purpose terraces and other on-farm measures used in lieu of downstream flood-prevention benefits.

The sharing of construction costs of structural measures is divided into three categories:

1. The costs allocated to flood prevention are borne in full by the Federal Government.
2. The sharing of costs allocated to agricultural management, primarily irrigation and drainage, is determined in consideration of the direct identifiable benefits. Most improvements of this type produce two types of benefits, namely, those accruing to the landowner through increased crop yields or land values and those occurring to the processors of farm products, the community or the general public. These latter benefits are often called secondary or indirect benefits. The Government's share of the cost usually will be based on the proportion of secondary or indirect community benefits to total benefits.

3. The costs allocated to non-agricultural purposes such as municipal or industrial water supply or streamflow regulation for organic pollution abatement must be borne in full by local organizations.

The Department of Agriculture can make loans or advancements to local organizations to help them pay their share of the cost of any improvements included in the project, including municipal or industrial water supply. Such loans or advancements are limited to \$5 million for one project with a repayment period up to 50 years.

Reviewing the Work Plan

When the local organization and the Soil Conservation Service tentatively agree on a complete watershed work plan, all others with a direct interest or responsibility in the project must have an opportunity to review the plan.

The State Conservationist arranges for reviews within the Service and by other Federal or State agencies that will help to carry out the plan. Any changes they suggest will be discussed with the local organizations. If the organization and the Service agree, these changes are made in the work plan.

The completed plan then goes to the Soil Conservation Service in Washington. A copy is sent also to the Governor of the State.

If the plan is approved by the Administrator, SCS, and funds are available, work can begin at once provided (1) the work plan does not include any single structure having more than 2,500 acre-feet of capacity; and (2) the Federal share of the estimated construction cost does not exceed \$250,000.

If the work plan includes a structure having a capacity of more than 2,500 acre-feet, or if the Federal share of the estimated construction cost exceeds \$250,000, the work plan must (1) be reviewed by interested Federal agencies (within a 30-day period); and (2) be approved by the Committees on Agriculture of the House and the Senate except that work plans containing a single structure having a capacity of more than 4,000 acre-feet must be approved by the Public Works Committees of the House and the Senate instead of the Committees on Agriculture.

Carrying Out Your Watershed Work Plan

To carry out the plan, all people in the watershed must be fully informed about what is being done and why, and what each group's responsibilities are. This calls for a continuing program of information and education.

Land Protection Comes First

Structures and other flood-prevention measures are only partial or temporary aids unless soil and water conservation practices are applied on individual farms and ranches and on public lands of the watershed.

The law, in fact, requires that local organizations obtain agreements from landowners to carry out recommended soil conservation measures on not less than 50 percent of the land in the drainage area above each floodwater-retarding structure to be built with Federal help. Departmental policy goes further. It requires that 75 percent of the recommended land-treatment measures be installed or scheduled for installation above structures wherever their design, construction, or maintenance would otherwise be adversely affected.

Measures which must be applied on the land before Federal help is given with structures are those that greatly reduce runoff and sediment or increase the usefulness of drainage and irrigation facilities. Above structures, these practices include terracing, cover crops, and protected waterways. Below structures they include land leveling, tile drainage, and irrigation practices.

Federal Help With Land-Treatment Practices

Farmers and ranchers receive the additional technical assistance needed to plan and apply the soil and water conservation measures included in the watershed work plan during the period of project installation.

The Soil Conservation Service aids them to develop and carry out basic plans of the same type as landowners are now making with this assistance through soil conservation districts.

The U. S. Forest Service provides the specialized technical assistance farmers and ranchers need to apply the more difficult forestry practices. This help usually is made available through the State forestry agency. The Forest Service also gives technical help with conservation measures needed on privately owned range lands within the national forests and on range lands adjoining national forests and administered in conjunction with the forests under formal agreements with the owners or lessees.

Federal Help With Structures

The Soil Conservation Service helps the local organization plan, design, and supervise the building of structural measures included in the approved watershed work plan.

When a watershed work plan includes structures for municipal or industrial water supply the local organization must provide non-government professional engineers to perform the engineering services required for the construction of such structures.

The local organization has the option of obtaining non-government professional engineers or using SCS engineers for other construction. If the local organization obtains non-government engineers it will be reimbursed for this service by the Department of Agriculture, and the Department may advance to the local organization 5 percent of the total construction cost for this purpose.

The Forest Service installs or assists State and local agencies to install fire-protection facilities on forest and brush-covered land.

Financial assistance can become available only after the sponsoring agency has obtained necessary land, easements, and rights-of-way, and has signed a cooperative agreement providing for contracting of structures in one or more "construction units." A group of closely related or interrelated structures that provide benefits greater than costs is a construction unit.

Contracting for Improvements

The local organization invites bids, awards contracts, and administers contracts for all structures on privately owned land. As work progresses Federal funds are made available to the local organization for payment to contractors.

Other Help is Available

In addition to assistance under the Watershed Protection and Flood Prevention Act, the local organization will have the aid of other Federal, Federal-State, and State programs dealing with land, water, plants, and trees.

The Soil Conservation Service will use, and encourage other agencies to use fully the help available under other Federal legislation to speed the completion of watershed projects.

Improvements on Federal and State Lands

The agency administering Federal lands within the watershed will be responsible for installing, operating, and maintaining any soil and water conservation measures or structures necessary on those lands.

The State is responsible for structures and other improvements that may be needed on State-owned lands within your watershed.

Operating and Maintaining the Project

By the time the project is completed, the local organization, the Federal Government, and possibly the State will have a considerable investment in watershed protection and flood prevention. Proper operation and maintenance are necessary to protect this investment and to assure the continued success of the improvements.

The local sponsoring organization is responsible for operating and maintaining structures and other works of improvement on privately owned land. The local organization may arrange with some other agency or organization to operate and maintain these improvements. In either case, a written agreement on maintenance is required before Federal funds are made available for any part of the cost of construction.

Structures and soil and water conservation measures on Federal lands will be operated and maintained by the agency administering those lands.

Soil and water conservation measures on individual farms and ranches will be maintained by the owners or operators under agreements with their local soil conservation district. If the watershed is outside a soil conservation district, the local organization must make arrangements satisfactory to the Secretary of Agriculture for fulfilling this responsibility.

Watershed protection, development, and flood prevention on upstream watersheds depend first of all upon positive local interest and participation. Experience shows that the partnership approach is the most practicable way to do the job. This means that local people, acting through their soil conservation districts, watershed districts, and other similar organizations, take the leadership while local, State, and Federal units of government contribute their technical, financial, education, and other services.

The Watershed Protection and Flood Prevention Act provides the means for this local, State, and Federal teamwork.

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